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ABSTRACT

Virginia Tech has had an undergraduate bachelor of sciences degree program in vocational industrial education (also known as trade and industrial or T&I) since 1957. It was among the first institutions in the nation to establish such a program. Virginia Tech's program was renamed vocational industrial/health occupations education in 1978. The program provides students with four options. Option 1, vocational industrial education, is an undergraduate-level program that offers training in 41 different specialty areas. The second option, health occupations education (HOE), is open to candidates with similar levels of academic and/or professional achievement and offers professional training in seven different health occupations. The third option, industrial cooperative training, is designed to prepare students for positions as industrial cooperative training coordinators in public schools and community colleges. The fourth option, vocational industrial education/health occupations education training and development, is intended for professional preparation of education training specialists who are skilled, confident, and resourceful. (Appendixes include check sheets for the various Virginia Tech industrial and health occupations program options.) (MN)

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NON-TRADITIONAL T&I AND HOE DEGREE PROGRAMS AT VIRGINIA TECH

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NON-TRADITIONAL T&I DEGREE PROGRAMS AT VIRGINIA TECH

Virginia Tech has had an undergraduate B.S. degree program in Vocational Industrial Education since 1957. It was among the first in the nation to establish such a program. Most institutions in the 50's era offered (1) industrial arts to which a T&I endorsement could be added or (2) industrial education which included industrial arts and T&I under the same option. In the case of the latter, some specific courses were usually substituted for T&I qualified students. Occupational experience was an additional requirement.

The program at Tech was renamed Vocational Industrial/Health Occupations Education in 1978. There are four options as follows:

1. Vocational Industrial Education
   A. Associate of Applied Science Community College Transfer
   B. NOCTI or Licensed Occupation Exam

2. Health Occupations
   A. Associate of Applied Science Community College Transfer
   B. or Licensed Practitioner

3. Industrial Cooperative Training
   A. Undergraduate Industrial Cooperative Training ICT Option
   B. M.S. degree built on B.S. on general studies degree

4. Vocational Industrial/Health Occupations Training and Development Option

In order to qualify for any of the aforementioned programs, students must meet state mandated occupational experience requirements for any one of the following areas:

Vocational Industrial Education

CIP CODE	NAME OF PROGRAM
47.0201	Air Conditioning and Refrigeration
47.0106	Appliance Repair
47.0603	Auto Body Repair
47.0604	Auto Mechanics
47.0601	Auto Servicing
12.0402	Barbering
12.0403	Cosmetology
46.0102	Masonry
46.9999	Building Trades
48.0703	Millwork and Cabinetmaking
46.0201	Carpentry
48.0799	Woodworking Occupations
48.0203	Commercial Art
48.0499	Commercial Foods
48.0204	Commercial Photography
48.0399	Commercial Sewing
12.0403	Cosmetology
48.0105	Drafting
46.0301	Electricity
47.0101	Electronics
47.0105	Industrial Robotics
47.0302	Heavy Duty Equipment Mechanic
48.0102	Drafting
47.0399	Other Construction and Maintenance Trades
48.0503	Machine Shop
47.0301	Other Construction and Maintenance Trades
48.0599	Other Metalworking Occupations
47.0304	Mine Machinery Repair
46.0503	Plumbing
47.0499	Power Mechanics
48.0201	Printing
47.0199	Radio and TV Repair
47.0103	Radio Communications
48.0506	Sheet Metal
47.0606	Small Engine Repair
23.0305	Tailoring
47.0103	Television Communications
48.0303	Upholstering
48.0508	Welding
46.0401	Building Maintenance
43.0107	Law Enforcement
	HEALTH OCCUPATIONS EDUCATION
17.0101	Dental Aide
17.0206	Emergency Medical Technology
17.0299	Health Careers Cluster
17.0503	Medical Assistant
17.0602	Nurse's Assistant
17.0605	Practical Nursing
17.0211	Surgical Technology

Each of the four options appeals to a different

clientele. The general studies component of the aforementioned programs consists of university core curriculum requirements mandated for all undergraduate students, regardless of major. This general studies component consists of a total of 47 undergraduate semester hours. All students accumulate these 47 semester hours by successfully completing courses in four areas as follows:

Humanities/Fine Arts	12 sem. hours
Social Sciences	12 sem. hours
Laboratory Sciences/Math	14 sem. hours
University Core Electives (from any of the three above areas)	9 sem. hours

Features of the four programs follow:

OPTION 1: VOCATIONAL INDUSTRIAL EDUCATION

Students in Vocational Industrial Education can satisfy the teaching major requirement in one of two ways.

All students seeking admission into this undergraduate program must either be a graduate of an accredited two year institution of post secondary education with a degree in a Vocational Industrial Education specialty, or successfully pass both the written and practical portion of the National Occupational Competency Test in their area of specialization.

Applicants who are graduates of a two-year program at a post-secondary institution must also meet the following additional admission requirements.

- Have obtained a minimum of a 2.5 grade point average, based on a 4.0 scale, upon program completion
- Be awarded an Associate of Applied Science degree from an accredited institution

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- Successfully pass an interview with Vocational Industrial and Health Occupations Education faculty by receiving a passing vote from the majority of the interviewing faculty.

- Submit a letter of recommendation from two community college faculty attesting to the level of their technical training.

- Meet any additional requirements as established by the University for transfer students

Applicants seeking admission as a National Occupational Competency Test students must meet the following requirements, in addition to successfully passing the National Occupational Competency Test.

- Successfully pass an interview with Vocational Industrial and Health Occupations Education faculty by obtaining a passing vote from the majority of the interviewing faculty

- Submit evidence of work experience or technical training sufficient for qualifications them to take the National Occupational Competency Test

- Submit two letters of recommendation from individuals verifying either work experience or technical preparation in a Vocational Industrial occupation specialty.

Please see the Vocational Industrial Education check sheet in Appendix A.

OPTION 2: HEALTH OCCUPATIONS

Students in Health Occupations Education can satisfy the teaching major requirements in one of two ways. All students seeking admission into this undergraduate program must either be a graduate of an accredited two year institution of post secondary education with a degree in a Health Care Practitioner area or hold a current and valid license to practice in a health care specialty within any state of the United States or its territories.

Applicants who are graduates of a two year post secondary institution must meet the following additional admission requirements:

- Have obtained a minimum of 2.5 grade point average based on a 4.0 scale upon program completion
- Be awarded an associate of applied science degree from an accredited institution.
- Successfully pass an interview with Vocational Industrial and Health Occupations Education faculty by receiving a passing vote from the majority of the interviewing faculty.
- Submit a letter of recommendation from two community college faculty attesting to their level of technical training.
- Meet any additional requirements as established by the University for transfer students.

Applicants holding a valid license to practice as a Health Care practitioner in any state of the United States or its territories seeking admission must also meet the following requirements:

- Have never been disciplined by a health regulatory board in the form of a license suspension.

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- Are not currently on disciplinary review for infractions that my lead to a suspension of their license.

- Must produce a current and valid license to practice in a health care specialty area.

- Successfully pass an interview with Vocational Industrial and Health Occupations Education faculty by obtaining a passing vote from the majority of the interviewing faculty.

Please see the Health Occupations Education check sheet in Appendix B.

OPTION 3: INDUSTRIAL COOPERATIVE TRAINING

There are two routes to gaining an Industrial Cooperative Training (ICT) degree (a) undergraduate degree, and (b) M.S. degree built upon a B.S. degree general studies.

Route 1.

Undergraduate program in Industrial Cooperative Training

The Industrial Cooperative Training Option will prepare students to accept positions as Industrial Cooperative Training Coordinators in public schools and community colleges. The unique duties and responsibilities of ICT coordinators mandates that courses be included in their programs of study which prepare them to teach and direct training programs in both an industrial and educational environments. The College of Education at Virginia Tech is the only college in the State that currently provides courses to prepare students to assume this type of position. Inasmuch as the ICT coordinator directs the preparation of students for training in a variety of occupations rather than

a single occupation, a unique combination of courses comprise the teaching major. The teaching major requirements will include a total of 34 hours as follows:

EDVT 4524	Supervisory Personnel Training (3 cr)
EDVT 4504	Industrial Safety Practices (3 cr)
EDVT 2504	Technical Updating in VIHOE (12 cr)
EDVT 1405	Drafting in Tech Ed. (2 cr)
EDVT 1406	Drafting in Tech Ed. (2 cr)
EDVT 3454	Technology Ed. Production (Mfg) (3 cr)
EDVT 2464	Power and Trans. Technology (3 cr)
PSYC 2084	Social Psychology (3 cr)
SOC 3604	Work in Modern Society (3 cr)

Please see Industrial Cooperative Training Major Check Sheet (Undergraduate) in Appendix C.

Route 2.

Master of Science in Education for Vocational Technical Education (Industrial Cooperative Training Option)

This graduate degree program is designed to qualify any B.S. degree holder with 2 years of work experience to be an Industrial Cooperative Education coordinator. The (a) general studies and (b) majors within any B.S. degree will establish an adequate foundation of knowledge upon which to specifically prepare for ICT.

This master's degree contains 18 hours of professional studies at the graduate level that relate to specific preparation as an ICT coordinator. The professional studies core includes: research, foundations, psychology, an overview of education, curriculum and program planning, and the specific elements of administering and developing cooperative training programs in vocational industrial and health occupations programs.

The 12 hours of field experience which include either or both an internship in industry and an externship (student teaching) in an educational setting is designed to accommodate the backgrounds in the varied B.S. degrees. If the candidate has a B.S. in education and has completed student teaching, then a 12 semester hour internship in industry would be required. Whereas, those candidates who have non-education bachelor's degrees would be required to complete 6 semester hours of externship, doing student teaching in the educational setting, in addition to the 6 hour internship in industry.

The cognate can also be adjusted in accordance with the B. S. major. The education major would be encouraged to complete a cognate in a non-education field of study. The non-education major would be guided to complete 6 semester hours of educational foundations courses or other educational courses that would complement the program of preparation for the ICT coordinator.

The two year work experience requirement serves as means to establish a basic understanding of business and industry because an ICT coordinator must work closely with business/industry settings. Regardless of the B.S. major, two years of verifiable industrial work experience is required.

Please see M.S.Ed in Vocational and Technical Education. (Industrial Cooperative Training Option) in Appendix D

OPTION 4: VOCATIONAL INDUSTRIAL EDUCATION/HEALTH OCCUPATIONS EDUCATION TRAINING AND DEVELOPMENT OPTION

A growing number of organizations are discovering that training and development are major keys to increased productivity and optimal employee performance. In recent years, business and industrial firms, hospitals, government agencies, and other organizations have dramatically increased their investment in training and development activities. In fact, the amount spent on formal training in the United States now exceeds $40 billion each year, and over one million individuals are employed as full-time and part-time trainers. This increased use of training and development activities has produced a dramatic increase in the demand for skilled training professionals.

To meet this need for more professionals, the College of Education at Virginia Tech has established a training and development program. The primary goal of the program is to prepare professionally educated training specialists who are skilled, confident, and resourceful.

The training and development field encompasses many different employment settings, therefore the roles assumed by training specialists vary greatly. Some of the most common roles are described below:

Course Design	Defining course content, preparing objectives, and developing learning activities
Instruction	Scheduling and teaching classes

Media Use	Selecting or developing audio-visual aids and computer software for use in training situations
Individual Counseling	Helping individuals assess their knowledge, skills, and attitudes in order to establish goals and improve performance
Evaluation	Determining the impact of instruction and identifying ways to improve training programs.

Successful trainers can work effectively with either individuals or groups. Because the design and delivery of training programs often requires the support and cooperation of persons throughout the organization, trainers use persuasion and influence rather than delegated authority to accomplish their objectives.

A career in training and development offers many personal and financial rewards. Trainers are highly visible within the organization and are recognized for their contributions to human resource development. Also, their position is often a stepping-stone to higher positions within the organization.

The training and development option is available in seven undergraduate programs in the College of Education:

- Agricultural Education
- Business and Computer Education
- Community Health
- Home Economics Education
- Marketing Education
- Technology Education
- Vocational-Industrial/Health Occupations Education

Each program area offers students a choice of two paths of

study: (a) students enrolled in any of the above degree programs may complete the training and development option in lieu of the teacher certification program, or (b) students can complete both the teacher certification program and the training and development option. Course advisors in each program area can explain the benefits of either path of study.

Please see Vocational Industrial/Health Occupations Education Training and Development Option in Appendix E.

APPENDIX A

VOCATIONAL INDUSTRIAL EDUCATION
(Associate of Applied Science Program Graduates
or Candidates Successfully Passing the
National Occupational Competency Test)
CHECKSHEET

I. General Studies Requirements (47 hours)
A. Humanities (12 hrs)
ENGL (6 hrs) 1105_____1106____
HUMANITIES/FINE ARTS (6 hrs) *____ ____;____
*The requirement is met by completing 1 intact sequence or cluster selected from the approved university list.
B. Social Science (12 hours)
*DEPT____#____; *DEPT____; #_____
*All courses must be one of the approved sequences/clusters
ECON 2115____; 2116____
C. Lab Science & Math (14 hours)
Lab Science (8 hours)*
*DEPT____#____; *DEPT____; #_____
*DEPT____#____; *DEPT____; #_____
*The student must complete one lab science sequence from the approved university list (e.g. Biology, Physics, Chemistry, or Geology).
Math (6 hours)*
Math_____;Math_____
*Must be satisfied by meeting 1 of the 7 options approved by the university.
D. General University Core Electives (9 hours)
II. Professional studies Requirements (17 hours)
EDCI 3024 ____(2 cr) Social Found. Ed.
EDCI 3154 ____(3 cr) Psyc. Fnd. II; School Learning
EDVT 2604 ____(3 cr) Intro. to Voc. Tech Ed.
EDVT 3564 ____(3 cr) Curr. Dev. in VIHOE
EDVT 4554 ____(3 cr) Tchg. Methods in VIHOE
EDVT 4564 ____(3 cr) Lab Des. & Mgmt in VIHOE
III. Teaching Major Requirements (30 hours)
The student's teaching major will be satisifed in one of two ways:
____Associate Applied Science (ASS) degree
____NOCTI
IV. Field Experience Requirements (9-12 hours)
___EDVT 3754 (3 hours)
Early Field Experience or course equivalent
___EDVT 4754 (9-12 hours)
Internship in Education
V. General University Electives (21-24 hours)
DEPT____#____ DEPT_____#_____DEPT_____#_____

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APPENDIX B

HEALTH OCCUPATIONS EDUCATION

(Associate of Applied Science Program Graduates or Licensed Practitioner)

CHECKSHEET

1988-1989

1. General Studies Requirements (47 hours)

A. Humanities (12 hrs)

ENGL (6 hrs) 1105____1106____

HUMANITIES/FINE ARTS (6 hrs) *_____ _____;

*The requirement is met by completing 1 intact sequence or cluster selected from the approved university list.

B. Social Science (12 hours)

*DEPT____#____;*DEPT_____;#_____

*All courses must be one of the approved sequences/clusters.

ECON 2115_____;2116_____

C. Lab Science & Math (14 hours)

Lab Science (8 hours)*

*DEPT____#____;*DEPT_____;#_____

*DEPT____#____;*DEPT_____;#_____

*The student must complete one lab science sequence from the approved university list (e.g. Biology, Physics, Chemistry, or Geology).

MATH (6 hours)*

MATH ____;MATH_____

*Must be satisfied by meeting 1 of the 7 options approved by the university.

D. General University Core Electives (9 hours)

_____ _____;_____ _____;_____ _____

II. Professional studies Requirements (17 hours)

EDCI 3024 ____(2 cr) Social Found. Ed.

EDCI 3154 ____(3 cr) Psyc. Fnd. II; School Learning

EDVT 2604 ____(3 cr) Intro. to Voc. Tech Ed.

EDVT 3564 ____(3 cr) Curr. Dev. in VIHOE

EDVT 4554 ____(3 cr) Tchg. Methods in VIHOE

EDVT 4564 ____(3 cr) Lab Des. & Mgmt in VIHOE

III. Teaching Major Requirements (30 hours)

The student's teaching major will be satisifed in one of two ways:

____Associate Applied Science (ASS) degree

____State/National License in Health Area
(R.N.; L.P.N.; R.R.T.; etc)

IV. Field Experience Requirements (9-12 hours)

_____EDVT 3754 (3 hours) Early Field Experience or course equivalent).

____ EDVT 4754 (9-12 hours) Internship in Education

V. General University Electives (21-24 hours)

*DEPT____#____; *DEPT____#_____*DEPT_____#_____

*DEPT____#____

APPENDIX C
VOCATIONAL INDUSTRIAL EDUCATION
EDUCATION
INDUSTRIAL COOPERATIVE TRAINING MAJOR
CHECKSHEET
1988-1989

1. General Studies Requirements (47 hours)
   A. Humanities (12 hours)
      ENGL (6 hrs) 1105_____; 1106_____
      HUMANITIES/FINE ARTS (6 hours)*DEPT_____#_____
      DEPT_____#_____

*The requirement is met by completing 1 intact sequence or cluster selected from the approved university list.

   B. Social Science (12 hours)
      HIST (6 hrs)
      or DEPT ___#_____;DEPT____#_____
      PSYC (y hrs)
      All HIST/PSYC Courses must be one of the approved sequences/clusters
      ECON 2115_____;2116_____
   C. Lab Science & Math (14 hours)
      Lab Science (8 hours)*
      DEPT___#_____DEPT____#_____
      DEPT___#_____DEPT____#_____

*The student must select one lab science from the approved unviersity list (e.g. Biology, Psychiss, Chemistry, or Geology).

      Math (6 hours)*
      MATH____;MATH_____
      Must be satisifed by meeting 1 of the 7 options approved by the university.
   D. General University Core Electives (9 hours)
      DEPT___#_____DEPT____#_____
      DEPT____#_____

II. Professional Studies Requirements (17 hours)
   EDCI 3024 Social Foundations of Education____(2 cr.)
   EDCI 3144 Psyc. Found I Human Dev. & Educ. of Exceptional Learners (3 cr.)
   EDVT 4575 Admin & Curr. Dev. of Coop Training Programs in VIHOE I _____(3 cr.)
   EDVT 4576 Admin & Curric. Dev. of Coop . Training Programs in VIHOE II_____(3 cr.)
   EDVT 4554 Tchg. Methods in VIHOE _____(3 cr.)
   EDVT 4564 Lab. Des. & Mgmt. in VIHOE _____(3 cr.)

III. Teaching Major Requirements (34 hours)
EDVT 4524 Supervisory Personnel Training _____(3 cr)
EDVT 4504 Industrial Safety Practices_____(3 cr)
EDVT 2504 Technical Updating in VIHOE _____ (12 cr)
EDVT 1405 Drafting in Tech. Ed. _____(2 cr)
EDVT 3454 Technology Ed. Production (mfg)_____(3 cr)
EDVT 3464 Power & Trans. Tech_____(3 cr)
PSYC 2084 Social Psychology _____(3 cr)
SOC 3604 Work in Modern Society _____(3 cr)

IV. Field Experience Requirement (12 hours)
EDVT 3754 Early Field Experience
or course equivalent (3 cr)
EDVT 4754 Internship in Education (9 cr)

V. General University Electives (16 hours)
DEPT_____#_____;DEPT_____#_____
DEPT_____#_____;DEPT_____#_____
DEPT_____#_____;DEPT_____#_____
DEPT_____#_____;DEPT_____#_____

APPENDIX D

M.S.Ed in Vocational and Technical Education
Industrial Cooperative Training Option
Check sheet
1988-1989

A. Research and Evaluation Core (3 hrs required) 3 ____
EDAE 5304 Foun. of Ed. Res. Eval.

B. Professional Studies: (select min of 3 hrs) 3 ____
EDCI 5104 Schooling in American Society
EDVI 5114 Advanced Ed. Psych. (other subst.)

C. Concentration: (9-15 hrs)

Required

EDVT 5604 Found. VTE

EDVT 4575 Admin. & Curr. Dev. of Coop Trng in VIHOE 3 ____

EDVT 4576 Admin. & Curr. Dev. of Coop Trng. in VIHOE 3 ____

EDVT 5644 Curr. & Prog. Planning VTE 3 ____

EDVT 5714 Voc. & Tech. Ed. in a Chg. Society

Required: (12 hrs) 3 ____

EDVT 5754 Internship in VTE 6-12 hrs. 12 ____

EDVT 5764 Internship (student teaching) 6-12 hrs. ____
(Non B.S. education majors 6 hrs. ____

Internships -- 6 hrs student tchg. B.S. education ____
majors do 12 hrs of internship ____

Total sem hrs: 30

APPENDIX E

VOCATIONAL/INDUSTRIAL AND HEALTH OCCUPATIONS EDUCATION
TRAINING AND DEVELOPMENT OPTION

I. General Studies Core (48 semester hours)

A. Humanities	12 sem. hrs.	6 sem. hrs. (English) 6 sem. hrs. (Humanities elec)
B. History & Social Science	12 sem. hrs.	
C. Lab Science/Mathematics	14 sem. hrs.	
D. Health and PE	4 sem. hrs.	
E. Electives from A,B,C	6 sem. hrs.	

II. Area of Specialization (30 semester hours)

SOC 4614	Occupations in a Social Context	3 sem. hrs.
PSYC 4024	Industrial and Organization Psyc.	3 sem. hrs.
EDVT 2604	Introduction to VTE	3 sem. hrs.
EDVT 4504	Industrial Safety Practices	3 sem. hrs.
EDVT 4524	Supervisory Personnel Training	3 sem. hrs.
EDVT 4604	Tests and Measurement	3 sem. hrs.
EDVT 4556	Lab Design and Management	3 sem. hrs.
EDVT 4555	Methods of Teaching VIHOE	3 sem. hrs.
EDVT 3564	Curriculum Dev. in VIHOE	3 sem. hrs.
EDVT 4575	Admin. and Curriculum Development of Cooperative Training Programs in VIHOE	3 sem. hrs.

III. Training and Development Core (33 semester hours)

EDVT 4604	Fundamentals of Training and Dev.	3 sem. hrs.
EDVT 4610	Instructional Applications in Training and Development	3 sem. hrs.
EDVT 4154	Learning Principles for Non-School Settings	3 sem. hrs.
EDVT 4614	Instructional Technology: Audio-Visual and Computer Uses	3 sem. hrs.
EDVT 4754	Internship in Education	15 sem. hrs.
EDVT 4740	Methods, Materials, and Practices in Education	3 sem. hrs.
EDVT 4960	Field Studies	3 sem. hrs.

IV. Electives (15 semester hours)

Total Semester Hours 126

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